



January 20, 2014

Attn: Kathy Frevert
Department of Resources Recycling and Recovery
1001 I Street
PO Box 4025, MS 13A
Sacramento, CA 95812
Submitted via email: carpet@calrecycle.ca.gov

Subject: XT-Green Comments on Revised Carpet Stewardship Plan

Dear Ms. Frevert:

XT-Green is a private investment firm which has spent the past 9 months preparing to build a world-class carpet recycling facility planned for both Northern and Southern California. Start up of the first of three facilities is planned for third quarter 2014.

Although over a million dollars have already been expended by XT-Green for engineering and technology development on three continents, the company has grave concerns regarding continuing this effort due to significant issues with the most recent CARE Carpet Stewardship Plan submitted on December 26, 2013. These include the Plan not meeting the AB 2398 statutory requirements regarding diversion, continuous meaningful improvement and wide-spread consumer access to carpet recycling.

These issues are discussed in detail on Attachment 1 provided with this letter. They include ongoing concerns that XT-Green will not be able to secure adequate post-consumer carpet for its facilities for a number of reasons including:

- The current contraction of the California carpet collection infrastructure.
- The increasing % of low-value, difficult to recycle non-nylon carpet (mostly PET) in the post-consumer carpet waste stream. And especially...
- The rapidly expanding export of high-value whole nylon carpet to Asia.

The export problem not only reduces the amount of the high-value nylon carpet resource which makes carpet recycling viable, low-tech carpet recycling overseas also causes significant environmental problems.

As demonstrated in our detailed comments, these collection problems will also impact the ability for California to divert and collect the 120 million pounds of post-consumer carpet required to meet the CARE 16% recycled output goal for 2016.

A major effort, based on extensive carpet recycling experience, was expended to create the attached detailed comments which provide suggested collector incentives to help resolve the pending collection crisis in California. These comments were due on January 20, 2014 (a California holiday). The meeting to consider approval of the CARE Plan was scheduled for January 21, obviously too late to read or consider these comments.

XT-Green requests that approval of the Plan be delayed until these and other comments submitted on the January 20th due date also be considered.

It is understood that CARE has the ability to make changes in the Carpet Stewardship Plan after CalRecycle's approval. However, based on personal experience in my attempts to try to save *The Carpet Recyclers*, it is very difficult to secure changes in the CARE Plan (or even consideration by the CARE AB 2398 committees) unless pressure is applied through the Plan approval process.

Thank you for your consideration. Please do not hesitate to request additional information or clarification regarding the detailed attached contract.

Sincerely –

Gail Brice

Gail Brice, Vice President
XT-Green (dba EarthCare Carpet Recycling)
2 Park Plaza, Suite 250
Irvine, CA 92614
562-592-5989 (direct) or 562-448-4254 (mobile)

gail.brice@xt-green.com

CARE California Carpet Stewardship Plan Comments

January 20, 2014

Attachment 1



Gail Brice, Vice President
XT-Green (dba EarthCare Carpet Recycling)
2 Park Plaza, Suite 250
Irvine, CA 92614
562-592-5989
gail.brice@xt-green.com

Note: Detailed comments were submitted by XT-Green in response to the CARE Carpet Stewardship Plan submitted in October 2013. The new revised CARE Plan dated December 26, 2013 provides some resolutions to previous concerns including consistency of terms and an improved education program.

A number of the XT-Green's previously submitted comments and concerns were not resolved in the December 26, 2013 revised plan. The following comments focus on the issues associated with XT-Green's decision whether to move forward with new carpet recycling facilities in California, especially the ability to secure adequate recyclable carpet to successfully operate the facility. These issues are highlighted in the cover letter of these comments with detailed information included in this attachment.

To the Carpet Team at CalRecycle and Carpet America Recovery Effort (CARE) –

First let me congratulate you again on your efforts during the initial years of the implementation of the ground-breaking AB 2398. Much progress has been made but also lessons learned by all that should hopefully result in improved results moving forward.

I have personally been closely involved with AB 2398 as a Vice President with The Carpet Recyclers (TCR) in La Mirada CA from November 2010 until the facility closed in March 2013. My responsibilities included being the primary contact with CARE, having lead responsibility for AB 2398 funding requests, setting up internal systems to ensure compliance with CARE audit requirements and also securing facility permits and developing programs to meet local and state environmental, health and fire protection regulatory requirements.

I no longer have any connection with The Carpet Recyclers (TCR) which closed in March 2013 or their parent company GF Industries. My comments provided here are informed by my own lessons learned witnessing the courageous but eventually unsuccessful efforts to save TCR. Therefore, the following comments are my own and do not represent the views of my former employer but rather are on behalf of XT-Green.

XT-Green is a private investment firm presently funding the technology development/testing and design of a world-class, multi-location, high-recycling rate carpet recycling facility planned for both Northern and Southern California to be called *EarthCare Carpet Recycling*. I am serving as the team leader for this effort. Permit applications and construction of first of three facilities are planned for 2014. An overview of the XT-Green's planned facilities and concern regarding securing adequate carpet was presented to CalRecycle in December 2013.

The goals of XT-Green's carpet recycling effort in California include:

- Develop facilities with highest recycling rates and zero waste to landfill goals. Optimize resources of carpet processed.
- Utilize harvested resources in California (and local communities if possible).
Note: With exception of Reliance carpet cushion, former and existing California carpet recyclers ship all recycled output out of state and overseas.
- Support the increase of California carpet diversion and recycling rates by increasing the value of recovered resources from the processed carpet.
- Create quality California jobs that pay a living wage and provide profit sharing.
- Produce significant environmental benefits and reduce greenhouse gases through replacing virgin petroleum-based raw materials.
- Provide a safe and healthy working environment for employees and surrounding community and environmental protection from our operations.

Although the XT-Green team is passionate about the environmental and California job generating benefits of carpet recycling, this effort will be abandoned if the company is not confident that we will be able to secure adequate recyclable carpet for processing. These concerns (discussed in these comments) are due to the rapidly-contracting carpet collection infrastructure in California and expanding export of post-consumer nylon carpet overseas.

XT-Green commends Carpet America Recovery Effort (CARE) for the improvements in their new revised California Carpet Stewardship Plan dated December 26, 2013 and CalRecycle's efforts in monitoring their progress. However, XT-Green believes that the Plan does not adequately lay out a program to:

- 1) Meet the statutory requirements of AB 2398
- 2) Increase diversions and ensure adequate collections infrastructure which will also impact recycled output goals
- 3) Support the carpet recycle challenges of local and regional governments
- 4) Focus on the creation of California Jobs

Therefore, based on these issues and the following detailed comments, XT-Green requests that CalRecycle reject the new revised CARE California Carpet Stewardship Plan

1. COLLECTION ISSUES

This section documents that the newly revised CARE Carpet Stewardship Plan does not provide adequate incentives to ensure that the volume of gross carpet collection will meet the needs to reach the 2016 16% recycling goal (or support the justification for the XT-Green capital investment for a new California carpet recycling facility).

In summary the following comments address the following concerns:

- A. Newly revised CARE Plan does not meet the AB 2398 Statutory requirements regarding diversion, continuous meaningful improvement and wide-spread access to carpet recycling.**
- B. Gross collections are currently going down in California.**
- C. The California collection Infrastructure has been contracting.**
- D. Carpet collection and recycling is not accessible to a wide number of Californians in urban areas.**
- E. The amount of high-value used carpet available to U.S. processors is rapidly declining due to rising exports that are causing environmental problems overseas.**
- F. The rapidly rising amount of difficult to recycle/low value non-nylon (PET) is severely impacting the financial viability of carpet collections**
- G. An AB 2398 incentive program is needed to solve the collections problems and ensure adequate carpet is available to meet 16% recycling goals.**

Suggested changes in CARE Plan provided to help resolve these issues.

The following provides detailed comments regarding these concerns:

- A. Newly revised CARE Plan does not meet the AB 2398 Statutory requirements regarding diversion, continuous meaningful improvement and wide-spread access to carpet recycling.**

- 1) Per Section 42972 (2) of the chaptered AB 2398, the carpet stewardship plan goals must include “... *increase the recycling of postconsumer carpet, increase the diversion of postconsumer carpets from landfills.*”

The current Plan rightfully focuses on recycling goals due to the fact that currently a large percentage of the carpet collected prior to reaching landfills (gross collections) eventually are land filled due to the difficulty of recycling the carpet (e.g. non-nylon, commercial broadloom carpet) and as process waste from recycling.

However, the statute requires that diversion goals be included. This was the case in the CARE Plan submitted in October of 2013 but these goals were removed from the CARE Plan submitted on Dec 26, 2013. The only remaining reference to diversion is the comment that to reach the 16% recycled output goal by 2016 will require the gross collections of 32% of the discarded carpet or 120 million pounds.

As discussed in the following, there is no justification that this amount of gross collections is possible without collection incentives.

Suggested Changes in the CARE Plan to meet statutory requirements:

- **Include diversion goals to support the 16% recycled output goal and provided incentives to reach them in the Plan. This should include the methodology to track gross collections vs. collected material eventually returned to landfills in order to document actual diversion.**
- 2) Also required to be included in the Plan is *“a description of how each consumer that pays a carpet stewardship assessment fee, but not limited to rural areas, will be provided reasonably convenient opportunities in each county to manage their post-consumer carpet.”*

As discussed in the following, contrary to the CARE Plan, with the contracting California collection infrastructure, significant urban areas in California do not have “reasonably convenient” access to carpet recycling, especially if the export of whole nylon carpet overseas (which causes environmental damage and health and safety issues) is not considered acceptable *“management of post-consumer carpet.”*

Suggested changes regarding access is provided in D. below.

- 3) Per Section 42975, the CARE program must *“... demonstrate to the department that it has achieved continuous meaningful improvement in the rates of recycling and diversion of post-consumer carpet.”*

As discussed in B. below, the amount of gross collection is presently going down. As diversion is gross collections – material eventually sent to landfill, through the increase in non-nylon carpet processing and reducing processing rates it is feasible to “achieve continuous meaningful improvement in diversion” while gross collections are decreased but this analyses should be included in the Plan, especially with the present trend of reduced collections which are not discussed in the plan.

B. Gross collections are currently going down in California.

The following chart compares the first three quarters of 2012 with the first three quarters of 2013 (Q3 2013 being the last quarter included in the CARE Plan).

	Q1 M pounds	Q 2 M pounds	Q3 M pounds	Total Discarded Carpet M pounds	Total M pounds (3 quarters)	% gross carpet collected in 3 quarters of total carpet discarded
2012	23.8	27	31.5	354 (entire year)	82.3	23.3%
2013	23.8	21.5*	23.3**	362 (entire years)	68.6	19%

* First quarter without The Carpet Recyclers' Facility in La Mirada

** First quarter with the Carpet Collectors in Sacramento

Per this chart, there is not “continuous meaningful improvement” in gross collections but rather, when comparing the gross collections for the first three quarters, the amount collected was 13.7 million pounds less with an overall reduction of 4.3%.

With an increase of non-nylon carpet recycling in Q3 2013 and the recycling rate holding steady, the actual diversion rate change could be of less concern.

However, per the Plan we only know that there is a need for gross collections of 120 million pounds by 2016 to reach the 16% recycling rate. If one assumes that gross collections in Q 4 2013 will be the same as Q 3 2013 (which is normally the slowest collection quarter), the total for gross collections in 2013 will be 91.9 million pounds or 26% or 25.4% of discarded carpet.

The projected amount discarded carpet for 2016 is estimated to be 378 million pounds. To reach the 120 million pounds needed for the 16% recycled output rate, gross collections will need to be 31.8% -- an increase of 6.4%. As discussed in the following sections, market pressures will make carpet collections more and more difficult. Unless collection incentives are put in place to overcome these market pressure, both “continuous improvement” in recycling and diversion and the 16% recycling output goal in 2016 will not be able to be achieved.

C. The California collection Infrastructure has been contracting

The new revised CARE Plan states that “as of August 2013, there are 20 businesses, which employ 182 Californians to perform these functions.” In the May 2013 draft Plan CARE stated that there were “20 businesses that employ 150 Californians.” This is confusing as the CARE Plan submitted in May 2013 included *The Carpet Recyclers* which closed in March of 2013 with a resulting loss of 76 employees and the Carpet Collectors which closed in July 2013 with the loss of an estimated 50 employees and possibly more because they self-collected.

Therefore, it would follow that the 150 Californians reported in May Plan has been reduced by @ 125 employees for a remaining total of 50. However, the Plan submitted on December 26 reports an increase to 182 although no additional processors or collectors have been added since May and actually, as shown below, there have been additional closures during 2013 or facilities that have stopped collecting carpet. Also, SOEX which has been included as a processor in both Plans has not accepted or processed carpet since 2011. This was verified by a call in November 2013 by XT-Green.

There is a possibility that the 182 Californians employed number in the October Plan includes companies that have been recently included because of the non-nylon incentive. If this is the case, it should be made clear in the Plan and then only employees actually processing the non-nylon carpet fiber into products should be included in the employment number.

Collections and processing resources are critical to the success of the AB 2398 program therefore CARE needs to make sure they are correct in the Plan. Note: If the incentives are changed to include collectors this will also help with the understanding of this resource.

The following reviews Attachment VIII in the current Plan based on phone calls made into the facilities. The bottom line is, rather than the 20 facilities reported in the text of the CARE Plan only **17 are actually listed in Attachment VII** and of these, only 13 are still open and collecting carpet and of these 13, **6 are part of the rural program** that consists of a collection trailer and few if any actual Californians employed in carpet recycling which leaves only facilities on Attachment VII that are actually generating California jobs.

Since the beginning of 2013, the carpet collection/processing infrastructure has lost 6 facilities (including 2 major processors) and gained 0. Expanding this infrastructure needs to be a focus of this Plan.

Per Attachment VIII of the new revised CARE Plan, as of October 2013, the following are the **“Current Collectors and Processors of Carpet from California.”** Rural Counties Highlighted in Green. Facilities that have closed or are no longer accepting carpet are highlighted in Gray.

Facility & Location	Currently Accepting Carpet?	Collection Only?	Collections & Processing	Comments
#1 Black Butte Recycling/Mt. Shasta	Yes	X		Rural/Small Volume Location (See comment below)
#2 Carpet Solutions Carson	Yes		X	Division of Ming Industries, ships processed material to parent company in China
#3 Davis Street Transfer San Leandro	NO	X		Was sending material to Carpet Collectors, no cost effective outlet now for processing
#4 Delleker Transfer Station	Yes	X		Rural/Small Volume Location (See comment below)
#5 Del Norte County Transfer Station	Yes	X		Rural/Small Volume Location (See comment below)
#6 and #7 GreenWaste Carpet Recycling San Jose	Yes	X		With closure of The Carpet Recyclers carpet collected is shipped to Georgia or overseas for processing.
#8 Hawthorne Street Eureka	Yes	X		Rural/Small Volume Location (See comment below)

#9 Los Angeles Fiber Vernon	Yes		X	Utilizes PET/PP for carpet cushion (see later comments regarding limited market for this material).
#10 Mission Recycling	NO	X		Stopped collecting with the closure of The Carpet Recyclers
#11 Napa Recycling	Yes	X		Collected carpet shipped overseas
#12 Oceanaire	NO			Brokered Processed Material. No longer dealing in Carpet.
#13 Rock Creek Landfill Milton	Yes	X		Rural/Small Volume Location (See comment below)
#14 SOEX Fresno	NO		X	Confirmed that SOEX has not recycled carpet since 2011
#15 Tehama County Red Bluff	Yes	X		Rural/Small Volume Location (See comment below)
#16 Waste Management of Orange County	Yes	X		WMA has no carpet processing facilities.
#17 Zanker Road Recycling San Jose	Yes	X		A GreenWaste Facility. With closure of The Carpet Recyclers carpet collected is shipped to Georgia or overseas for processing. Also have collection facility at Florin Road Sacramento

Per this chart, of the “17 Collection and Processing Facilities” listed by CARE in their Plan:

1. **Four** are: **CLOSED or NOT ACCEPTING USE CARPET**
2. Of the remaining 14, **6 of these are: Rural/Small Volume Collectors**. During the first year of the Rural Collection programs, 202,500 pounds of carpet was collected by these facilities. To reach 16% recycling rate, using the assumptions in the Plan (2 x recycling rate = 32% of 378 pounds of total discarded carpet) which is 120 million pounds of carpet that will need to be collected. Even if one assumes the rural program will more than double by 2016 to .5 million pounds (0.43%) that leaves...
3. At this time, only the following CARE resources are available to collect **119 million pounds** (32% of all carpet discarded) needed to meet the 16% recycling goal.
 - a) Northern California
 - 1) Napa Recycling
 - 2) GreenWaste (4 facilities each with limited geographic reach)
 - 3) ReThink Green Oakland (not a CARE member)

Due to the closure of Carpet Collectors and *The Carpet Recyclers* (who bought GreenWaste's collected carpet) all the rest of the whole nylon carpet collected in Northern California is now being exported overseas with the exception of Nylon 6 carpet shipped to Shaw in Georgia and a small amount of carpet shipped down to LA Fiber and

Carpet Solutions. (See comments below regarding the environmental hazards of exporting.) The non-nylon carpet (PET) is being land filled or stored.

Unless cost-effective carpet processing is available in Northern California, export will continue and the problems reaching the 16% recycling rate by 2016 will increase.

- b) Southern California - Collectors Only:
 - 4) Waste Management of Orange County
 - 5) Others who are not CARE members – some selling to Southern California processors plus significant exporting of nylon carpet (losing more carpet needed to make the 16% rate)
- c) Southern California – Collectors & Processors
 - 6) Carpet Solutions
 - 7) LA Fiber
- d) Non-California Processors that apply for AB 2398 Funds
 - 8) Shaw Evergreen Facility – Nylon 6 only
 - 9) Tandus – Carpet Tiles Only
 - 10) Interface – Carpet Tiles Only

Note: As many as 12 carpet processing companies have applied for AB 2398 in the past. This number is down to 5 companies: 3 (only 2 in California) process residential carpet (70% of the PCC generated) and 2 process carpet tile outside of California.

Finally, as 3 of the remaining 5 processors are from outside of California, how does the Plan incentivize California-based entrepreneurs and the creation of California jobs?

Incentives are needed for collectors to stop the contraction and expand the carpet collection infrastructure.

Suggested Changes in the CARE Plan to address the problem that the AB 2398 Carpet Collection Infrastructure is Inadequate to Support Goals:

- **Revise Attachment VII by removal of closed facilities or facilities that are no longer accepting carpet. Give the accurate number of facilities in the text.**
- **Make it clear in Attachment VII that 6 out of the remaining 14 of the collectors listed are from rural/small volume locations (43%) and have the capability of collecting less 0.5% of the carpet needed to reach goals**
- **Identify the shortfall in capacity for both collections and processing in reaching 16% goals (including taking into consideration the impact from whole carpet export)**

- **Address the loss of California jobs and how this trend will be reversed (including considering higher incentives for California processors vs. out-of-state processors operated by the billion-dollar carpet mills).**
- **Provide incentives for Collectors (details discussed later)**

Carpet collection and recycling is not accessible to a wide number of Californians in urban areas.

D. Carpet recycling is not accessible to a wide number of Californians

Required to be included in the Plan is *“a description of how each consumer that pays a carpet stewardship assessment fee, but not limited to rural areas, will be provided reasonably convenient opportunities in each county to manage their post-consumer carpet.”*

The new revised Plan CARE dated December 26, 2013 claims that 98% of all Californians have access to carpet recycling. This is based on the assumption that urban areas are served by the private independent collection/processing companies and the needs of the rest of California are met through the Rural County Collection Program.

Per the CARE Plan, the program in urban areas is primarily empty collection trailers dropped by recyclers at “large retailers or installers” and swapped out when full, or “independent collectors who collect/sort carpet and deliver to recycling facilities.”

This system is not adequate to provide “reasonably convenient” access to carpet recycling for a wide range of urban consumers, especially if the export of whole nylon carpet overseas (which causes environmental damage and health and safety issues) is not considered acceptable *“management of post-consumer carpet.”*

The following is a list of consumer communities that are currently not being served by the existing, contracting California carpet collection infrastructure:

1) Consumers who buy carpet from small businesses in urban areas.

Only large stores with adequate space get the trailer service that the CARE Plan claims is the method used to collect carpet in urban areas. However, if collectors/recyclers can't fill a trailer in two weeks it's not cost effective for the recycler to provide trailer service). The City of Los Angeles has over 300 carpet stores and but it's estimated that < 10% of these stores are provided trailer service because they are too small or have inadequate space. Fortunately, both LA Fiber and Carpet Solutions (the only two carpet processors left in California) are located adjacent to the City of Los Angeles and accept drop offs.

With this it's estimated that 50% of discarded carpet in the City of LA is collected, an impressive number except that the City of LA generates 12% of all the PCC in California. Therefore the uncollected carpet is estimated to total 20.8 million pounds in 2013. This is due to the size of the region and traffic patterns making it is often more convenient and less costly for installers to dispose of the waste carpet.

Hopefully, part of this problem will be solved by the new commercial franchise program but at this time, large parts of the City of Los Angeles do not have “reasonably convenient access” to carpet recycling.

2) Consumers in urban areas without carpet collection/recycling facilities

There are only two carpet processing/recycling centers left in California, both located in the Los Angeles area. With very few exceptions (and these are getting fewer by the month, these companies only service consumers in Southern California).

Used Carpet is heavy and bulky and therefore difficult to cost-effectively transport over long distances. Because of the closure of the Carpet Collectors and The Carpet Recyclers, due to the lack of buyers much of the carpet that is collected outside of Southern California is exported overseas. (See comments below regarding environmental hazards of export.)

The following lists the present status carpet recycling access to areas outside the LA Area and the rural collection program:

- a) Sacramento – One CARE collector left, nylon 6 sent to Georgia, nylon 6,6 exported overseas. PET land filled.
- b) Bay Area/Napa -- Two CARE collectors (four locations) left, one non-CARE collectors nylon 6 sent to Georgia, nylon 6,6 exported overseas. PET stored or land filled.
- c) Central Valley – No collections
- d) Riverside/San Bernardino County – One non-CARE collector left, all material collected is exported. PET land filled. Limited service to larger store by remaining recyclers.
- e) San Diego -- One CARE collector left. Limited service to larger store by remaining recyclers.

3) DIY Projects

Used carpet generated in urban areas by “do it yourself” projects that are picked up in bulky item programs by local city, governments or franchise holders tend to be disposed. This is because it is too costly to segregate the recyclable nylon carpet from the non-recyclable PET carpet as this requires an \$18,000 analyzer to determine the fiber type.

Suggested Changes in the CARE Plan regarding accessibility to carpet recycling:

- **The CARE Plan should acknowledge that a significant component of non-rural California does not have access to carpet recycling and identify shortfalls in the collection and recycling infrastructure.**
- **Implement the collections incentives discussed later**

- **The CARE California Program Manager should become involved in the development and implementation of the City of LA Commercial Franchise Program which has major potential for capturing the 20+ million pounds of City of LA carpet estimated to presently be going to landfill. Also her involvement with the AB 341 Commercial Recycling can also increase collections.**

E. The export problem: The amount of high-value nylon PCC available to U.S. processors is rapidly declining due to rising exports that are causing environmental problems overseas.

Why should we care about export? Isn't that a good way to divert California PCCE?

Environmental Damage

Included in the Code of Contact regarding Certified CARE Collectors is *"We are committed to protecting the environment in all aspects of our business."* However, because there are no incentives for independent collectors to provide collected material to CARE carpet recyclers in the AB 2398 program, a growing amount of collected nylon carpet is being exported overseas.

Besides the loss of California jobs and recycled output discussed below, the relevant issue here is the impact of the export of whole carpet on the environment and export being contrary to the goals of AB 341 regarding California being responsible for its own waste and not being a source of environmental pollution in other states or countries.

With exported carpet, only the nylon component is valuable which makes up @ 40% of the carpet. The low-tech way to collect the nylon is to soak the carpet in water and pull out the nylon fibers by hand. The water becomes saturated with the carpet filler (calcium carbonate) and the carpet dirt which is high in nitrates. This is discharged untreated into waterway in concentrations that cause fish kills and algae blooms robbing the waterway of oxygen. The large amount of non-valuable solid component of the carpet is disposed in unlicensed landfills.

The environmental damage from carpet processing in China was a major factor in the institution of the "Green Fence" to stop the export of whole PCC in China which is not being shipped to other countries in Asia.

Loss of raw material for California recyclers

At this time an estimated 12 million pounds/quarter of post-consumer nylon carpet is being exported out of California to overseas' markets. This is based on the Q2 2013 calculations that show that 4.2 million pounds of whole nylon carpet shipped by processors that report into CARE plus the independent collectors (especially in Northern California) who do not report into CARE.

Much of this is Northern California material that formerly went to the now-shuttered Carpet Collectors facility in Sacramento or was shipped south to The Carpet Recyclers' facility in La Mirada. With this plus large non-CARE exporters in Southern California, annualized over 12 months, this represents 48 million pounds – more than required to supply an entire California Carpet Recycling facility and create a minimum of 50 California jobs.

It is very inexpensive to export whole nylon carpet to Asia. Many of the containers are going back empty. A container holding 40,000 pounds of baled whole nylon costs \$400 to ship or 1 cent per pound (significantly less than the cost to transport used carpet in California).

And because only nylon carpet is exported, what's left behind in California? The non-nylon (PET) carpet sent to landfills or waste to energy facilities or processed at a much lower value than nylon carpet. Another problem rarely discussed associated with export is the rising underground piracy of nylon carpet from processors' collection trailers. Before the carpet even reaches the trailers, nylon carpet is bought directly from installation crews with side deals with exporters equipped with \$18K analyzers to detect nylon vs. PET carpet. The nylon is sold to the exporters, the PET carpet is put into the collection trailers which increases the PET problems discussed below.

The value of nylon carpet is the driver that makes carpet recycling possible. If incentives are not put in place to stop the export of the nylon carpet the viability of carpet recycling in California is greatly in question.

Suggested Changes in the CARE Plan regarding export:

- **The CARE Plan should include incentives to stop the export of the nylon carpet required for a viable California carpet recycling industry and to stop environmental damage from overseas recycling. (See details later)**

F. PET Carpet threatens to further threaten California collections infrastructure

As noted above, the carpet collection and recycling infrastructure is rapidly contracting in California but also nationwide due to the increasing amount of non-recyclable PET carpet in the waste stream. The impact is not only due to the rising PET disposal cost for each collection trailer, it's also the revenue lost from the lowering % of nylon as shown by this example.

For a collection trailer holding approximately 30,000 pounds of collected carpet, an assumed PET disposal cost of \$50/ton (and rising) and a nylon value of 8 cents/pound:

PET 30% (2013):	Trailer value (70% nylon – 30% PET disposal)	\$1350
PET 50% (2016):	Trailer value (50% nylon – 50% PET disposal)	\$825

This revenue (plus whatever tipping fees can be charged) from these trailers must cover: the cost of the trailer (weekly rentals), transportation to drop off and swap the trailers, extensive labor to sort the PET from the nylon carpet (using an \$18,000 analyzer), transportation to processing facilities or (increasingly) baled and transport for export. With this rapidly-reducing profitability (if collectors don't go out of business all together), they can only serve the largest carpet retailers/installers and only in a small geographic service area.

The CARE Plan provides incentives to create markets for recycled output from PET carpet recycling. It will take time to get these markets in place but in the meantime, the PET issue puts more and more strain on the California carpet collection system. Besides incentives to stop carpet export, the collector incentive should also help subsidize the loss of income due to PET.

Suggested Changes in the CARE Plan regarding PET:

- **The CARE Plan should include collector incentives to offset the costs associated with the rapidly rising amount of difficult to recycle/low value non-nylon (PET) carpet in the waste streams.**

G. An AB 2398 incentive program is needed to solve the collections problems and ensure adequate carpet is available to meet 16% recycling goals

CARE California Carpet Stewardship Plan:

- Recognizes the important role of collectors
- Notes that there are collectors who are not CARE members
- Comments that they are considering a possibility of a collection incentive as...
“a way to collect more accurate recovery data and stimulate growth in recovery and output.”

As discussed, there is a much more urgent need for CARE to focus on the collectors than is expressed here because:

- 1) The California urban collection infrastructure is rapidly contracting
- 2) The PET problem severely impacts collections and the solutions proposed by CARE will probably not be implemented in time to prevent further contraction unless other measures are implemented.
- 3) The incentivized rural program will generate less than 1% of the 116 million pounds of collected carpet needed to meet the 2016 goals. There needs to be a viable urban collections infrastructure to make up this difference, especially as...
- 4) Nowhere in this Plan is the issue of export of whole carpet addressed
- 5) Collectors need to be incentivized in order to stop carpet export and create California jobs as...
- 6) It will be very difficult to attract new carpet recycling facilities in California (including XT-Green) unless there will be adequate recyclable carpet to recycle.

Suggested Changes in CARE Plan to increase carpet supply to California processors, create California jobs, stop the contraction of the California carpet collection infrastructure and prevent pollution overseas from exported carpet:

- **Use AB 2398 funds to incentivize CARE certified carpet collectors (including local governments) by paying 5 cents per pound for nylon carpet generated in California that is documented and delivered to a California carpet recycling**

facility participating in the AB 2398 program (3 cents to compete against import and 2 cents to off-set losses due to increasing PET collection).

- As part of the incentive program, collectors would be required to become a CARE Certified Collector and participate in all CARE reporting requirements in order to develop a comprehensive understanding of carpet stewardship in California that is presently lacking because they have no incentive to report.
- CARE needs to discuss nylon carpet export in their Plan and the potential impact on recycling output goals of 16% by 2016. Note: Under no circumstances should export of whole nylon carpet be considered “diversion” or a component of “recycled output” as part of the AB 2398 program.
- Include in the responsibilities of the new CARE California-based Program Manager that the CARE Carpet Stewardship Plan meet the requirements of AB 341 including:
 - Educate the California carpet retailers/installers that generate greater than 4 cubic yards/week (almost all of them) that they are required by law to arrange for recycling services.
 - Work with the CalRecycle AB 341 staff to determine the “comparable vs. source separation” rules regarding carpet with the goal of keeping carpet as clean as possible by contracting with carpet collectors and not sending carpet to MRF’s.
 - Promote the increase the landfill cost of nylon carpet to make it higher than the tipping fees required for recycling, make sure it’s also higher than transfer stations feeding into the landfill.
- Ensure all of California actually does have access to carpet recycling by expanding the “rural county program” to include urban drop off locations operated by local governments that accept carpet from small stores, carpet removed by do-it-your-selfers and picked up in bulky item pickup program.

AB 2398 support for these urban drop-off locations would include the collection incentive listed above for nylon carpet but also... Drop off locations meeting specific requirements would be provided the \$18K ID meter to determine fiber type to sort carpet for the first five years.

(Note: The one-time cost per pound of carpet collected from this program will be much less than the + 10 cent per pound that is provided as a rural program subsidy.)

2. PET CARPET: Processing

An extremely valuable program included in the new revised CARE Plan is focused initiatives on non-nylon materials (grouped here under the term “PET” carpet). Technology improvements to increase PET recycling will be the primary driver to reach the 16% goal. This will be challenging as the amount of PET in the waste stream is expected to increase from 30% to 50% by 2016 and getting the PET solutions in place may take longer than expected.

The % of PET carpet in the waste stream could actually go much higher than 50% by 2016. Just visit any major home store retailer in California and one will see that they are primarily promoting the less expensive PET carpet. Contacting other carpet retailers has resulted in current estimates of PET being 75-85% of sales. This material reaches the waste stream faster than nylon as it is less durable and is routinely used for apartments and removed after leases.

There are differences in opinion on how quickly the PET recycling issue will be resolved but the value of recycling PET will always be lower than nylon carpet and thus impact the economic viability of carpet collection. The success of PET recycling needs to be tracked closely as it a major component of reaching the 16% recycling goal by 2016. The new 12 cent/pound incentive is a great idea but it is difficult to commit to extensive capital costs to process or use reclaimed PET carpet if it is uncertain how long this incentive will last.

XT-Green is exploring adding PET processing to its planned facility and possibly also partner with a manufacturer to use the PET in its end product. However, it is difficult to commit the capital for this because of the uncertainty of the 12 cent/pound incentive for material used in manufacturing. Also, the potential sale price of the recovered PET is much lower by many times over than for processing nylon carpet. Therefore the incentive to process PET carpet needs to be much higher than the 6 cents/pound for the nylon fiber produced and sold for it to be cost-effective for a processor to accept PET and create markets for the processed material.

Suggested Changes in the CARE Plan to promote PET carpet recycling:

- **Commit to a defined time for the payment of the 12 cent/pound to companies that convert non-nylon fiber to end uses.**
- **Increase the incentive to first-line processors for Type 1 non-nylon fiber**

3. OTHER PROCESSOR INCENTIVES: Non PET Issues

Besides the PET issues, the new revised CARE Plan includes a bonus program to help solve issues associated with the closure of *The Carpet Recyclers* and the Carpet Collectors regarding competition for PCC. We applaud and support the bonus program.

However, the CARE Plan proposes to continue a 6 cent per pound payment for Type 1 material presently defined at fiber with < 25% ash i.e. the filler (mostly calcium carbonate) and dirt that remains in recovered fiber.

In general, the cleaner the fiber (lower the ash content), the higher of the percentage of recovered fiber will be utilized as recycled content (with less waste generated during the next step of production.) CARE now requires that an ash analyses be included with the request for

funds. This is being done by the processor. The temperature of the test is very important relative to the validity of the analyses. CARE has issued an analytical procedure for ash testing.

However, sample and handling of samples are also extremely important relative to the final results. If the fiber is > 25%, the payment of the fiber is reduced to 3 cents per pound. Because of this significant difference, CARE should establish a sampling frequency and procedure (e.g. composite samples from numerous bales) that is required for the self testing and reporting. But also, CARE should include independent ash testing as part of its auditing procedures.

The planned XT-Green facilities will generate extremely clean fiber with an estimated < 5% ash processed in the “shred and clean” facilities discussed above. This material will then be additionally processed to remove additional ash and separate the nylon from the polypropylene and turn the fiber into pellets. This additional processing will allow higher uses of this material, less waste, more California jobs plus provide a greenhouse gas saving by not shipping bales of fiber across the U.S. or overseas.

However, based on the present Type 1 incentive program, XT-Green will actually be penalized for its high quality as shown in this example:

If Company A is utilizing less equipment and producing a Type 1 fiber with 20% ash, for every 100 pounds of Type 1 fiber recovered, it will have 20 pounds of ash.

In Company B is utilizing more equipment and producing a Type 1 fiber with 5% ash, for every 100 pounds of Type 1 fiber recovered, it will have 5 pounds of ash.

Let’s see what happens when these companies process 2000 pounds of nylon carpet with a conservative composition of: 50% fiber (1000 pounds), 40% filler (800 pounds) and 10% other.

Company A (20% ash):

Type 1: 1000 pounds fiber + 250 pounds of filler = 1250 lbs x \$.06 = \$75.00

Company B (5% ash):

Type 1: 1000 pounds fiber + 50 pounds of filler = 1050 lbs x \$.06 = \$63.00

Note: Company B would have a possibility for higher Type 2 incentives but it would be paid out at 3 cents a pound and as there is presently no market for this material as discussed above, only Type 1 incentives are compared here.

As shown, with the present CARE Type 1 incentive program, Company A (with a significantly less sophisticated, less capital/operating expense intensive facility that produces poor quality recycled output) will actually be rewarded with additional Type 1 incentives because of the significant weight of Type 2 material in their fiber.

This will especially impact XT-Green when the additional separation, cleaning, pelletizing facility is added that separates the nylon from the polypropylene and reduces the ash to < 1%.

XT-Green (1% ash):

Type 1: 1000 pounds fiber + 10 pounds of filler = 1010 lbs x \$.06 = \$60.60

Based on above:

Suggested Changes in CARE Type 1 Incentives to promote best and highest use of recycled Type 1 output and increase utilization of material in the U.S. and California:

- **Maintain requirement that all Quarterly Requests for Funds be accompanied by an ash analysis that meets the CARE issued ash analyses procedures.**
- **CARE should develop a statistical based sampling plan to ensure the Type 1 material analyzed represents the recycled content sold.**
- **Recycled output > 25% ash will be considered Type 2 material and continued to be paid out at the existing 3 cents per pound**
- **Recycled output < 25% ash and > 8% ash will be considered Type 1 material and continued to be paid out at the existing 6 cents per pound**
- **Recycled output < 8% ash and > 3% ash will be considered high-quality Type 1 material and paid out at 8 cents per pound**
- **Recycled output additional processed to <3% ash and pelletized will be paid out at an additional 2 cents per pound.**

4. Market Development: Type 2 incentive program

In 2013, according to the Quarterly reports, the amount of Type 2 recycling dropped from .4% to 0% from Q1 to Q2 2013. This was apparently due to the closure of *The Carpet Recyclers* who were able to cost-effectively recycle a significant portion of its Type 2 recycled output due to synergies with other recycling programs by their parent company.

In the CARE Plan submitted in October, CARE projected that 8 million pounds of Type 2 material (14% of the total) would be recycled in 2016. This information has been removed from the present plan and replaced with an assumption that 98% of the material recycled would be Type 1 material. This is due to the fact that the present incentive program of 3 cent per pound is not sufficient for this material which makes up 40% of PCC carpet. With California's aggressive 75% recycling goal, having inadequate incentives to keep this material out landfill should not be acceptable.

Part of the challenges to convince a manufacture to use recycled content is overcoming the short-term costs associated with product testing and changing their manufacturing process. For example, a major vinyl flooring manufacturing in California was interested in utilizing the Type 2 material (calcium carbonate) generated at the Carpet Recyclers' facility which was located less than 10 miles away. The first challenge was the fact that virgin calcium carbonate is @ 1 cent per pound. TCR proposed to share the present 3 cents/pound Type 2 incentive but it was inadequate to overcome objections, especially associated with start up costs.

Suggested Changes in the CARE Plan Type 2 market development:

- **Add a short-term Type 2 incentive to manufactures to overcome objections and subsidize testing and startup costs, e.g. 4 cents per pound to the manufacture for two years**

5. HOW TO PAY ADDITIONAL INCENTIVES?

Assuming an ongoing assessment fee of 5 cents per square yard, these ongoing assessments and the existing surplus are required to pay for the incentives in the newly revised CARE Plan. This document identifies a number of additional incentives that are needed for the success of this program. Therefore the question arises: How to pay for the additional incentives?

AB 2398 assessment is far below other stewardship programs

Per the following table, the present carpet assessment fee is conservatively less than 2% of the total invoice or @ \$10 on a +\$4000 charge.

Material	Assessment Fee	Assessment Fee/lb	Average invoice	Assessment fee per invoice	% of average invoice
Carpet	5 cents/sq yard	1 cent/pound	\$4240 - \$5300 for an average home	\$10.60	.25-.2%
Paint	75 cents/gallon	7.5 cents/lb	\$40 for 2 gallons for 10x10 room	\$1.50 cents	3.75%
Mattress	\$25/unit	25 cents/lb	\$500/ mattress	\$25	5%

If the carpet assessment fee is brought in line with the other California Product Stewardship Programs there should be more than adequate funds to solve the problems identified above regarding the California Carpet Stewardship Program and the CARE implementation plan.

Suggested Changes in the CARE Plan regarding Assessment Fees:

- **Increase assessment fees to meet the needs of a new, new revised Plan**
- **Require an automatic increase in assessment fees when the reserve fund reaches a defined % of funds.**

6. LEVEL PLAYING FIELD

Processors not included in Best Management Practices

Under “Best Management Practices” only the carpet collectors are discussed in the context of the Certified CARE collectors program but there is nothing about the carpet processors who have a much higher potential to cause problems from their operations. This was recently demonstrated by the accumulation of 32 million pounds of illegally disposed waste behind the Carpet Collectors facility in Sacramento in violation with State and local fire, solid waste and waste quality regulations. This material has now been disposed in a landfill.

CARE is not expected to be a regulatory agency responsible for compliance by their “reclamation partners” but CARE needs to make a commitment that one of the responsibilities of the new CARE California Program Manager is to have a working knowledge of the various California rules and regulations and agencies in order to be a resource to the entrepreneur community and ensure that problems like the Carpet Collectors does not happen again. This understanding should include air quality permitting, solid waste management facility permits, storage requirements for stormwater management and fire protection and CalOSHA requirements regarding respiratory and hearing protection.

This effort needs to include the assurance that CARE will not approve of a technology such as CARS again without being assured that the proper California permitting and approvals have been secured prior to starting operations and being paid AB 2398 funding. This is especially important with the increasing pressure to find a solution for PET as soon as possible. One can easily exchange one environmental problem for another if one rushes forward without review.

Finally, the California Solid Waste regulations (Title 14) require all solid waste management facilities to secure a Solid Waste Management Facility Permit unless exempted as a recycling operation that accept only source segregated material and generates less than 10% residual waste. At this time, carpet recycling produces significantly more than the 10% therefore, a permit is required to be issued by CalRecycle or by the Local Enforcement Authority (LEA).

Because carpet recycling facilities qualify under the small facility rules, the requirements for the permits are minimal and the operating plan required is a good tool for ensuring a well-run facility. In CARE’s role of being advisors to entrepreneurs interested in carpet recycling in California and as the stewardship organization responsible for implementing AB 2398 on behalf of CalRecycle, CARE should at a minimum be able to advise their reclamation partners regarding this CalRecycle permitting program.

Suggested Changes in the CARE Plan regarding Best Management Practices:

- **Expand to include Processors and make a commitment that the California Program Manager should have a working knowledge of regulations.**

7. MINOR HOUSE KEEPING ISSUES:

A. CARE Reclamation Services

CARS (Carpet As a Rock Substitute) should be removed from the list of processes producing process yields as CARS is no longer an approved process.

Activities of Reclamation Services should include land filling of non-recyclable carpet and non-recycled production waste plus export of whole nylon carpet.

Suggested Changes in the CARE Plan regarding Reclamation Activities list:

- **Remove CARS**
- **Add export of whole nylon carpet**

B. California-based CARE Representative

XT-Green whole heartedly supports the addition of a California based AB 2398 CARE resource. We are hopeful that her efforts will include:

- A proactive effort to support the expansion of the presently contracting collection infrastructure in urban areas.
- Working with CalRecycle and the California Air Resources Board (CARB) to ensure the development of the AB 341 Commercial Recycling, 75% Plan and the CARB recycling emission factors are synergistic with the AB 2398 program to promote carpet recycling.
- An education program that includes a strong focus on consumers and ensures that “sustainability” includes the life cycle of the material.
- Securing a cursory knowledge of the California regulatory structure and requirements to ensure a level playing field between the carpet processing companies i.e. preventing a repeat of the CARS type situation which gave one company an unfair and unfounded advantage over other carpet recyclers.

Final Comments:

CARE and the CalRecycle Carpet Team have done an incredible job working out the significant challenges associated with the start up of this groundbreaking carpet recycling program. Impressive progress has been made but new challenges have been created by the rapidly growing % of polyester (PET) carpet in the waste stream and the significant export of whole carpet.

XT-Green is prepared to bring significant additional carpet recycling resources into California. However, the major investment required cannot be justified unless the CARE California Carpet Stewardship Plan assures that there is a viable, expanded carpet collection infrastructure in California that is incentivize to stop exporting nylon carpet and supply carpet to California carpet recyclers and create California jobs.

Thank you for your consideration and this opportunity to comment on the CARE Plan.